

## REMARKS

The Office Action of February 10, 2005 has been carefully reviewed and the foregoing amendment has been made in response thereto, thereby defining the present invention more clearly and distinguishing it more positively from the prior art. For these reasons and those set forth in detail below, favorable reconsideration and early allowance of the claims is hereby courteously requested.

The specification is amended herein to correct informalities. A substitute specification and mark up of the substitute specification showing the changes made to the original specification are each attached. The specification is amended to insert paragraph numbers into the section entitled Brief Summary of the Invention and subsequent paragraph numbers have been changed to remain in sequential order. On page 21 the reference number 200 referring to the hockey stick shaft has been changed to reference number 35 in two places to agree with the remainder of the disclosure and with an amendment to the drawings filed herewith. No new matter has been added to the substitute specification. The Examiner is hereby requested to enter the substitute specification.

The drawings stand objected to because reference character 200 is used to designate the hockey stick and the stick shaft and because the edge 85, called out in the description, is not shown in the drawings. The drawings are amended herein to change the reference character referring to the stick shaft from 200 to 35 and to add the reference character 85 to the contact edge of the stick blade. In particular, Figure 5 is amended to according to the changes shown in the annotated sheet filed herewith. The description is amended herein to agree with the amendments to Figure 5 and the description changes are incorporated within the substitute specification filed herewith.

Claims 1-21 are pending in the application. Claims 1-10, 17 and 18 were previously withdrawn from consideration. Claims 11-16 and 19-21 stand rejected. The application is amended herein to cancel claims 11-13 and to amend claims 14-21. New claims 22 - 24 are added herein.

Claims 11-13 stand rejected under 35 U.S.C. 102(b) as being anticipated by Budolfson (5,192,259). Claims 11- 13 are hereby cancelled without prejudice.

Claim 14 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Budolfson in view of Mason (6,059,673). Applicants' respectfully traverse the rejection of claim 14.

Claim 14 is amended herein to more clearly and distinctly set forth those features, which Applicant regards as the invention and for which patent protection is sought.

Amended claim 14 sets forth the following limitations:

“a spherical element having an element weight to hockey puck weight ratio of greater than 1.3 and a diameter ranging from 25.4 - 50.8 mm, (1.0 - 2.0 inches); and

  a practice surface comprising a smooth flat surface formed on a substantially uniformly thick layer of one of, polyester, urethane foam, polyester with a vinyl facing, neoprene, ethylene vinyl acetone, silicone and polyethylene and wherein the practice surface is configured to have a higher resistance to sliding of the spherical element over the practice surface than to rolling of the spherical element over the practice surface;”

Budolfson discloses a practice surface that is, "flat hard planar" and gives examples of "the concrete surface of a garage floor or driveway", "hard asphalt" or a "wooden planer surface." Budolfson is completely silent about a practice surface comprising a uniformly thick layer of one of polyester, urethane foam, polyester with a vinyl facing, neoprene, ethylene vinyl acetone, silicone and polyethylene, as set forth in amended claim 14.

Budolfson discloses a forged steel ball with a diameter in the range of 1.5 - 3.0 inches and a weight in the range of 2.5 - 4.0 pounds for "moving the ball back and forth" between positions on a surface using a hockey stick. The device disclosed by Budolfson is specifically configured for strengthening the wrists and hands. Budolfson is completely silent about whether the practice surface is configured to have a higher resistance to sliding of the spherical element over the practice surface than to rolling of the spherical element over the practice surface as set forth in amended claim 14.

The Examiner alleges that the surfaces disclosed by Budolfson, "have a rough surface which makes it much easier to roll the object, since when sliding the rough surface produces obstacles for the object, hence creating resistance." This characterization by the Examiner is completely unsupported by the reference. It is respectfully submitted that Budolfson never teaches or suggests the limitations set forth in amended claim 14.

Mason discloses a goalie training system utilizing a center surface, side surfaces and lane surfaces comprised of synthetic ice that allows conventional hockey skates to be utilized, (Col. 2, line 1) Mason further discloses that the shooters utilize conventional hockey pucks and skate down the shooting lanes toward the goalie, (Col. line 23). Mason is completely silent about a spherical element. Mason is completely silent about whether the conventional hockey puck rolls or slides over the practice surface. Mason is completely silent about a practice surface formed from one of polyester, urethane foam, polyester with a vinyl facing, neoprene, ethylene vinyl acetone, silicone and polyethylene.

The Examiner states, in view of Mason, it would have been obvious to also use Budolfson's system on synthetic ice the motivation being in order to allow conventional ice skates to be used." This suggestion by the Examiner is completely irrelevant to amended claim 14 or to Applicants' disclosure. Applicants' invention as described in the specification and as set forth in the pending claims is inoperable when used on synthetic ice. The coefficient of friction of ice is reported in the JOURNAL OF BIOMECHANICS (25, 6 June 1992: 565-71 by De-Konin-JJ, De-Groot-G and Van-Ingen Schenau) as ranging from 0.0046 - 0.0059. (See coefficients of Friction for Ice [www.hockey.tripod.com/ice/id13.html](http://www.hockey.tripod.com/ice/id13.html), copy attached) Assuming that the coefficient of friction of synthetic ice is within a similar range or even in the same order of magnitude as those listed above, the use of synthetic ice as a practice surface for Applicants' invention renders the invention inoperable. In particular, amended claim 14 is limited to a practice surface that provides a higher resistance to sliding of the spherical element than to rolling of the spherical element. Applicant describes a preferred surface as having a coefficient of friction between the practice surface and the steel ball between about 0.3-0.9. Applicants' specification states, "if the practice surface has a low friction, e.g. ice, the ball will slide instead of roll." (Page 17, line 11) It is respectfully submitted that the coefficient of friction the synthetic ice disclosed by Mason could not support the limitation of amended claim 14 that "the practice surface is configured to have a higher

resistance to sliding of the spherical element over the practice surface than to rolling of the spherical element over the practice surface.”

It is respectfully submitted that Mason never teaches or suggests the limitations set forth in amended claim 14. It is further submitted that the Examiner has failed to establish a *prima facie* case of obviousness because neither Budolfson nor Mason, taken alone or in combination, teach all of the limitations set forth in amended claim 14. Moreover, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine their teachings to provide a training device with the limitations set forth in amended claim 14. Applicant respectfully requests that the rejection of claim 14 under 35 U.S.C. §103 (b) as being unpatentable over Budolfson in view of Mason be reconsidered and withdrawn.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Budolfson. Applicant respectfully traverses the rejection of claims 15 and 16. Claims 15 and 16 are amended herein to more clearly and distinctly set forth those features, which Applicant regards as the invention and for which patent protection is sought.

Budolfson discloses an exercise system for strengthening the wrists and hands of a hockey player by moving a single ball back and forth between positions on a practice surface using a hockey stick. Budolfson discloses a ball weight in the range of 2.5 - 3.0 pounds and a ball diameter in the range from 2.5 to 3.0 inches and specifically states “a key element of the system is the heavy weight of the ball which is much heavier than a standard hockey puck; this weight facilitates the desired strengthening.” (Col 2, line 13) Budolfson further suggests that the steel ball can be used “to concentrate on stick technique,” (Col. 2, line 26) but never describes how his device can improve stick technique. Budolfson is completely silent about using more than one training ball and never suggests that any benefit can be gained by using more than one ball. Budolfson is completely silent about a training method that teaches the proper stick handling motion for controlling a hockey puck on ice. Budolfson is completely silent about whether the steel ball rolls or slides over the practice surface.

Amended claims 15 and 16 set forth a hockey stick handling training device comprising: “a spherical element having an element weight to hockey puck weight ratio of greater than 1.3 and a diameter ranging from 25.4 - 50.8 mm, (1.0 - 2.0 inches);” “at least another spherical element having an element weight to hockey puck weight ratio of greater than 6 and a diameter ranging from 50.8 - 76.2 mm, (2.0 - 3.0 inches)”

Amended claims 15 and 16 include a spherical element having a diameter in the range of 1.0 - 2.0 inches and this diameter range includes the ball D described by Applicant in TABLE 1 on page 15 of the specification. Applicants’ specification specifically characterizes the ball D as being just slightly heavier than a conventional hockey puck and having a diameter that places its contact point with a hockey stick blade at nearly the same height above the practice surface as the contact point with a conventional hockey puck. The specification further states, “the ball D most closely matches the stick to ball contact feel of stick handling a conventional hockey puck and is specifically designed to increase speed and control during practice sessions.” (Page 23, line 33 - Page 24, line 6). Budolfson is completely silent about a practice ball having a diameter in the range of 1.0 - 2.0 inches and being just slightly heavier than a conventional hockey puck or about a practice ball for increasing speed and control. Instead, Budolfson teaches a ball that is

much heavier than a standard hockey puck for strength training. In addition, as pointed out above, Budolson fails to teach or suggest a practice surface with the limitations set out in amended claims 15 and 16.

It is respectfully submitted that with regard to claims 15 and 16 the Examiner has failed to establish a *prima facie* case of obviousness because Budolfson fails to teach or suggest all of the limitations of amended claims 15 and claim 16. Moreover, there is no suggestion or motivation, either in the reference or in the knowledge generally available to one of ordinary skill in the art to modify Budolfson to provide a kit having the limitations set out in amended claim 15 and 16. In addition, one of ordinary skill in the art would not reasonable expect that modifying Budolson to add training balls having differing weights and diameters and a surface that provides a higher resistance to sliding of the spherical element than to rolling of the spherical element would provide a training kit for developing a proper stick handling motion. The suggestion and motivation to make such a modification is completely provided in Applicants' specification.

Accordingly, Applicant respectfully requests that the rejection of claims 15 and 16 under 35 U.S.C. §103 (b) as being unpatentable over Budolfson be reconsidered and withdrawn. Amended claim 19 is amended herein to overcome the rejection and sets forth a hockey stick handling practice kit comprising:

"four solid steel balls with each ball having a different weight ranging from 227 grams (8 ounces) to 1815 grams (64 ounces) and with each ball having a different diameter ranging from 33 mm, (1.3 inches) to 89 mm, (3.5 inches) and wherein at least one of the four solid steel balls has a diameter of 50.8 mm (2.0 inches) or less and another of the four solid steel balls has a weight of 1000 grams (35 ounces) or more."

As described in Applicants specification the balls A and B, each have a weight of 1000 grams or more and provide elements for teaching the proper wrist and arm motion. The specification describes the ball D as having a diameter of less than 50.8 ounces for matching puck to stick contact points and for increasing speed and control. Applicants' specification states, "Developing the proper wrist, hand and forearm motions of the upper hand 650 is the most important aspect of stick training" (Page 25, line 14) and "the balls A and B force players to stick handle using proper motion and continue to reinforce the use of proper stick handling motion in each practice session" (Page 26 line 3) and "the use of ball A and B substantially prevent the cheating motion that uses the lower hand 625 to move the stick shaft laterally." (Page 25, line 17) "the ball D is specifically designed to increase speed and control during practice sessions."

Budolfson is completely silent about providing two, three, or four balls and never teaches or suggests providing balls having different diamters or different weights and never suggests a ball having a diameter of 50.8 mm (2.0 inches) or less.

It is respectfully submitted that the limitations of amended claim 19 distinguish over the teachings of Budolfson because Budolfson fails to teach or suggest all of the limitations of amended claim 19. Moreover, there is no suggestion or motivation, either in Budolfson or in the knowledge generally available to one of ordinary skill in the art to modify Budolfson to provide a kit having the limitations set out in amended claim 19. In addition, one of ordinary skill in the art would not reasonable expect that modifying Budolson to add a training ball with a diameter of less than 2.0 inches would provide a training kit for developing a proper stick handling motion and for increasing speed and control. The suggestion and motivation to make such a modification is completely

provided in Applicants' specification. Accordingly, Applicant respectfully requests that the rejection of claim 19 under 35 U.S.C. §103 (b) as being unpatentable over Budolfson be reconsidered and withdrawn.

Claims 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Budolfson in view of Nudo (6846252). Applicants' respectfully traverse the rejection of claim 20.

Claim 20 is amended herein to more clearly and distinctly set forth those features, which Applicant regards as the invention and for which patent protection is sought. Claim 20 sets forth each of the limitations of claim 19, which as stated above are patentably distinct over Budolfson. Claim 20 further sets forth:

"a rectangular mat for placing on a floor said mat providing a practice surface formed thereon and having a length dimension of at least 750 mm (29.5 inches) and a width dimension of at least 460 mm, (18.1 inches), and wherein the mat comprises a layer of one of polyester, urethane foam, polyester with vinyl facing, neoprene, ethylene vinyl acetone, silicone and polyethylene, the mat having a substantially uniform layer thickness in the range of 10 - 51 mm, (0.39 - 2.0 inches) and wherein the practice surface has a higher resistance to sliding of the steel balls over the practice surface than to rolling of the steel balls over the practice surface.

Nudo discloses a practice device for use on a driveway or street surface made of synthetic ice comprising a synthetic plastic such as polyethelene and having a top surface on which a user places a hockey puck for striking with a hockey stick. Nudo discloses using the device to slap a puck into a net and to use a stick to move the puck around on the top surface for practice to get a feel for the stick. As stated above, relating to a synthetic ice surface, Applicants' specification states, "if the practice surface has a low friction, e.g. ice, the ball will slide instead of roll." (Page 17, line 11). It is respectfully submitted that the coefficient of friction of the synthetic ice disclosed by Nudo could not support the limitation of amended claim 20 that "the practice surface is configured to have a higher resistance to sliding of the spherical element over the practice surface than to rolling of the spherical element over the practice surface."

It is respectfully submitted that the limitations of amended claim 20 distinguish over the teachings of Budolfson in view of Nudo because neither Budolfson nor Nudo, taken alone or in combination, teach all of the limitations set forth in amended claim 20.

Moreover, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine their teachings to provide a training device with the limitations set forth in amended claim 20. Applicant respectfully requests that the rejection of claim 20 under 35 U.S.C. §103 (b) as being unpatentable over Budolfson in view of Nudo be reconsidered and withdrawn.

Claims 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Budolfson in view of Chiarelli (3704891). Applicants' respectfully traverse the rejection of claim 21. Claim 21 is amended herein to more clearly and distinctly set forth those features, which Applicant regards as the invention and for which patent protection is sought. Claim 21 sets forth each of the limitations of claim 19, which as stated above are patentably distinct over Budolfson. Amended claim 21 further sets forth:

"a fifth ball having weight of 50 grams (1.7 ounces) or less and a diameter of 50.8 mm (2.0 inches) or less"

Chiarelli discloses a weighted hockey puck for ice hockey practice on ice and states; "in order that the practice puck be beneficial it must conform to the official size of an ice-hockey puck (1 inch thick and 3 inches in diameter) and have substantially the same resiliency as vulcanized rubber to afford the same feel on the stick and must also be somewhat heavier than the standard vulcanized rubber puck." (Col 1 lines 38 - 45)

The Examiner states that in view of Chiarelli it would have been obvious to also provide light ball/pucks for the training system of Budolfson the motivation being to cater to a larger group of users. The Examiner further states Applicant has not disclosed that providing a ball with 1.6 inch diameter provides an advantage, is used for a particular purpose, or solves a stated problem. Applicant respectfully disagrees. Neither Budolfson or Chiarelli discloses a practice ball having a diameter of less than 2.0 inches or a practice device of any kind that weighs less than a conventional hockey puck.

Applicants' stated purpose for the ball E, (weight 46.1 grams and diameter 41.3 mm) is to provide a high contrast with the steel balls during a practice session. Applicants' stated purpose for the ball D, (weight 226.8 and diameter 38.1 mm) is to closely match the stick to ball contact feel of stick handling a conventional hockey puck and to increase speed and control during practice sessions.

Applicants' specification states; "The player first performs a warm up using the ball E." "The ball E is specifically used first because the ball E is lighter and more easily maneuvered than a hockey puck. This provides a high contrast with the ball A, which is the next practice ball used in the set sequence." The set is closed with thirty repetitions with the ball E to again provide a high contrast with the steel balls A - D." (Page 21, line 15 - Page 22, line 3) The specification further states "The practice surface characteristics as described above substantially prevent any sliding of the balls A and B on the surface 610 such that attempts by a player to use a lateral force applied by the lower hand 625 and arm 630 will be quickly frustrated. By comparison, a player may be able to cheat using the balls D and E or with practice devices used in the prior art which weigh less and therefore offer less resistance to sliding." (Page 25, line 21 - Page 26 line 3).

It is respectfully submitted that the limitations of amended claim 21 distinguish over the teachings of Budolfson in view of Chiarelli because neither Budolfson nor Chiarelli, taken alone or in combination, teach all of the limitations of amended claim 21.

Moreover, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine their teachings to provide a training device with the limitations set forth in amended claim 21. Applicant respectfully requests that the rejection of claim 21 under 35 U.S.C. §103 (b) as being unpatentable over Budolfson in view of Chiarelli be reconsidered and withdrawn

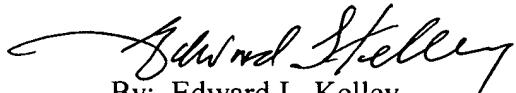
New claims 22-24 are added herein to more clearly and distinctly set forth those features, which Applicant regards as the invention and for which patent protection is sought. New claims 22 and 24 include the limitation that the coefficient of friction between the practice surface and the spherical element is at least 0.5. This limitation distinguishes the practice surface of Applicants invention over a concrete practice surface. The coefficient of friction of concrete to steel is 0.45. This value is listed in a table of friction coefficients at [www.superciviled.com/friction.htm](http://www.superciviled.com/friction.htm), copy attached. New claim 23 further limits the training device of claim 16 by the addition of another spherical element.

Applicant hereby submits that Claims 14-16 and 19 - 24 as amended herein are allowable over the prior art of record and earnestly requests that the Examiner reconsideration the application in amended form and in view of the remarks above.

If the Examiner feels that any further discussion of the invention would be helpful, perhaps in the form of an Examiner's Amendment, applicant's representative is available at 781 938-9169 and earnestly solicits such discussion.

Respectively submitted,

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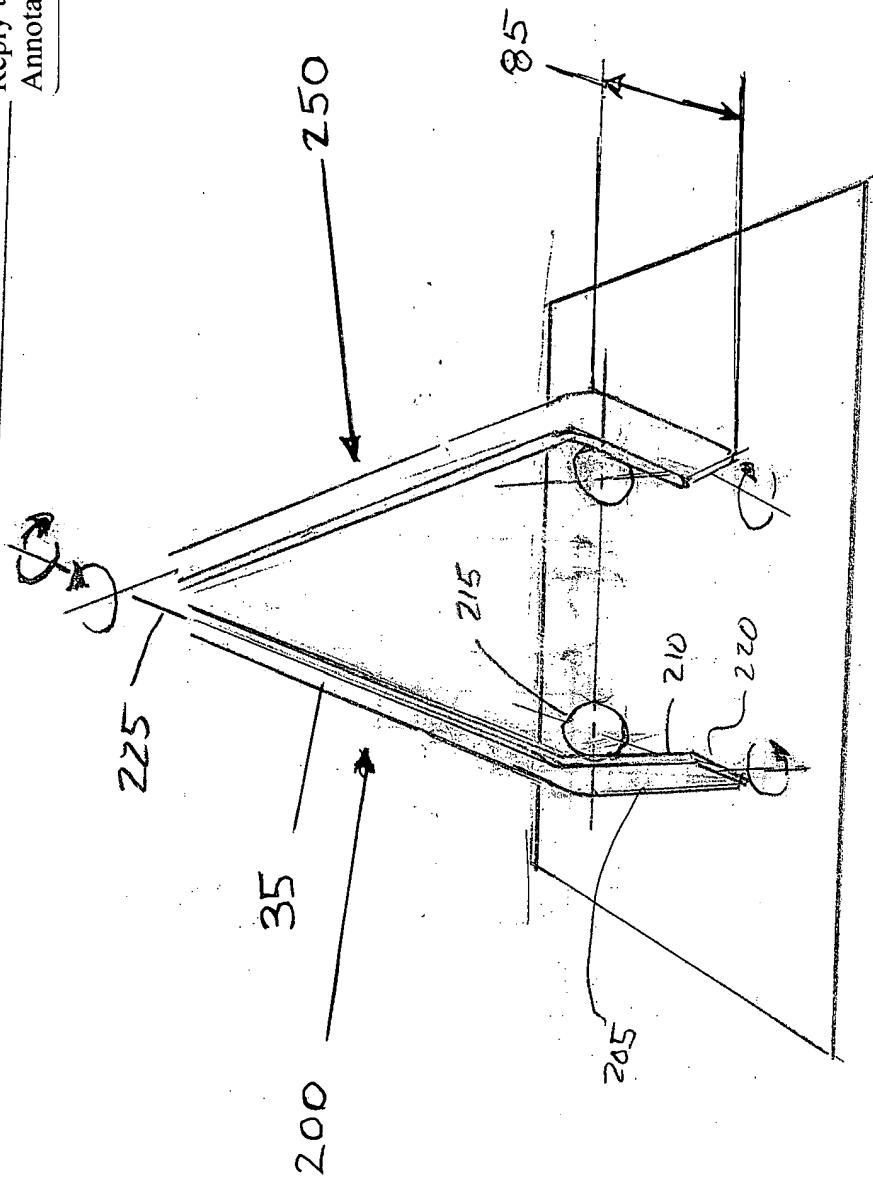
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Reply to Office Action of 02/10/05  
Annotated sheet showing changes



## FIGURE 5